



ICF TECHNOLOGY INCORPORATED

MEMORANDUM

TO: Paul La Courreye, U.S. Environmental Protection Agency
FROM: Jo Ann Weber, ICF Technology, Incorporated *JA*
DATE: March 28, 1988
SUBJECT: Completed Work
THROUGH: Patty Cook, Ecology and Environment, Incorporated
COPY: Marcia Brooks, Ecology and Environment, Incorporated

This list is for the attached completed:

____ PA(s)
____ PA Review(s)
____ PA Reassessment(s)
X Other 9NHR

PA-2 complete
Pal
4.19.88

<u>Site Name</u>	<u>EPA I.D.#</u>	<u>City</u>	<u>Recommendation</u>	<u>State Lead</u>
Phelps Dodge Corporation, Copper Queen Branch	AZD980817704	Bisbee	NFRAP	None

✓ *EVT = A, PA2, N, 040188 F*
SI1 = C, N



ICF TECHNOLOGY INCORPORATED

MEMORANDUM

TO: Paul La Courreys, EPA Region IX Site Screening Coordinator

FROM: Jo Ann Weber, ICF Technology, Incorporated *JA*

DATE: February 11, 1988

SUBJECT: Reassessment of Phelps Dodge Corporation Copper Queen Branch, Preliminary Assessment prepared by George H. Muehleck, Arizona Department of Environmental Quality, dated February 9, 1983.

EPA ID#: AZD980817704

THRU: Tom Beer, Ecology and Environment, Incorporated *TWB*

COPY: FIT Master File
Patty Cook, Ecology and Environment, Incorporated
Phil King, Arizona Department of Environmental Quality, Phoenix
Doug Toy, Arizona Department of Water Resources, Phoenix

INTRODUCTION

Under Technical Directive Document number F9-8709-019, the Region IX Field Investigation Team (FIT) has been tasked to re-assess all Preliminary Assessments in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) with "active" or "pending" status according to guidelines established to implement the Superfund Amendments and Reauthorization Act (SARA). The strategy for determination of further action under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) is based solely on the potential for each site to achieve a score high enough on the Hazard Ranking System (HRS) for inclusion on the National Priorities List (NPL). This strategy is intended to identify those sites posing the highest relative risk to human health or the environment. All other sites needing remedial or enforcement follow-up will be referred to the States or an appropriate Federal agency.

This site was evaluated primarily using the original HRS model. Additionally, this site was also evaluated for its potential to score using the draft revised HRS model. The following is a summary of FIT's findings with regard to this site.

SUMMARY

A Preliminary Assessment (PA) was prepared by George H. Muehleck of Arizona Department of Environmental Quality (formerly known as the Arizona Department of Health Services) for the Phelps Dodge Corporation Copper Queen Branch Bisbee Arizona on February 9, 1983. The state recommended that the Environmental Protection Agency (EPA) conduct a site inspection of the Copper Queen Branch if solid wastes from extraction, beneficiation and processing of ore and minerals were considered hazardous waste under CERCLA. According to 48 FR40663, September 8, 1983, CERCLA has authorized EPA to respond to mining waste releases as follows: "Section 104 (9)(1) of CERCLA authorized EPA to respond to releases of not only 'hazardous substances', but also 'any pollutant or contaminant'. 'Pollutant or contaminant' is defined very broadly in section 104 (9) (2) to include essentially any substance that may cause an adverse effect on human health."

The Phelps Dodge Copper Queen Branch is an approximately 1200-acre copper mining operation. The facilities consist of leaching activities at the Lavender Pit, underground mines and tailings piles, and a precipitation plant. Seven open, unlined impoundments, estimated to cover 640 acres, contain waste tailings from the leaching operations. An estimated 3,500 tons/year of copper is recovered from leaching operations. In addition, small amounts of gold-silver ore is produced from closed underground copper mines.

The 1983 PA indicated that liquid wastes, metals and by-products of leaching and mineral extraction processes could potentially migrate from the surface impoundments through an estimated twenty to thirty feet of silt, sand and gravel into the underlying potable aquifer. An unknown, but probably small number of domestic water well owners may draw potable water from this shallow aquifer within a four mile radius of the site. An alternate municipal water supply system is readily available and serves nearly all of Bisbee's 8500 people. The supply well for the municipal system is reportedly located eight miles south of the Copper Queen Branch site. The PA did not indicate the potential for off-site contaminant migration via the surface water and air routes.

Sediment and water samples from the surface impoundments are not known to have been collected and analyzed for suspected contaminants. File information indicates that elevated lead levels (100 to 1648 ug/g) have been documented in many of the approximately 55 off-site surface soil samples collected by the Arizona Department of Health Services, Center for Disease Prevention (ADHS), in Bisbee during 1985 and 1986. A point source for the lead-contaminated soil has not been documented, but the ADHS has suggested that emissions of volatilized metals and particulates from the stacks of copper smelters which operated in Bisbee in the late 1880s and early 1900s could potentially be a source. Phelps Dodge Corporation formerly operated a copper smelter adjacent to the current location of Lavender Pit at Copper Queen Branch. However, the Phelps Dodge Historical Smelter, Bisbee (EPA ID# AZD981680242) has been identified as a separate EPA site from the Copper Queen Branch facility.

Two water samples (not specified as ground water or surface water samples) collected from Bisbee (location not specified) by the ADHS in 1986, and had lead and arsenic levels below the EPA's maximum contaminant levels of 0.050 mg/l for both lead and arsenic.

The Copper Queen Branch facility is not eligible for inclusion on the NPL. This is because of the low target population, if any, of residents who use the shallow ground water as a source of potable water within a four mile radius of the site, and the lack of uses for the surface water. Because the on-site precipitation plant is inactive, the potential for release to the air pathway is not appropriate to evaluate.

If on-site soil samples revealed contamination, the facility could be eligible for the on-site route defined in the draft revised HRS. However, the facility is not located in a residential area. The 1983 PA assessed a low potential for direct contact by the public.

RECOMMENDATION

1) EPA

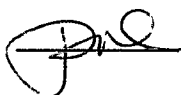
FIT recommends no further action under CERCLA at the Copper Queen Branch facility. The Copper Queen Branch facility would not be eligible for inclusion on the NPL for the following reasons:

- o Low target population, if any, of residents who use the shallow ground water as a source of potable water.
- o The lack of uses for the surface water.
- o A potential for release to the air pathway is not appropriate based on current on-site processes.
- o The on-site exposure pathway score would be low because the facility is located in an industrial area and the on-site soils have not been documented as contaminated.

2) State or Other Agency

Copies of this reassessment will be sent to the Arizona Department of Environmental Quality and the Arizona Department of Water Resources for their consideration.

EPA CONCURRENCE

	<u>Initial</u>	<u>Date</u>
No Further Action Under CERCLA		<u>4.1.88</u>
High Priority SSI	_____	_____
Medium Priority SSI	_____	_____

CONTACT REPORT

AGENCY: Arizona Department of Environmental Quality
ADDRESS: 2005 North Central
Phoenix, AZ
PERSON CONTACTED: David Chelgren
PHONE NO.: (602) 257-2290
FROM: Jo Ann Weber
TO: File
DATE: February 8, 1988
SUBJECT: Phelps Dodge Copper Queen Branch Facility, Bisbee, Arizona

Mr. Chelgren is familiar with the Copper Queen Branch Facility. The mining facilities are inactive; mining, milling and concentrating have not occurred on-site for several years. Because the precipitation plant is not operating, an air discharge permit is not required. An on-site diesel power plant is currently permitted. Acid leaching of tailings is the only current on-site activity. No air emissions permit is required because this process does not have a single emission point. Mr. Chelgren does not recall if the surface impoundments were enclosed by a fence. However, access to the area may have required passage through a gate.